Foodborne Illness Information

from the Working Group on Foodborne Illness Control

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Monthly Statistics

Number of Complaints Received by the Working Group on Foodborne Illness Control (Confirmed and Unconfirmed)

Month	Single Reports (one person ill)		Multiple (two or more people ill)	
	2003	Average (1997-2002)	2003	Average (1997-2002)
January	21	17	14	12
February	17	18	10	13
March	10	21	6	14
April	19	20	4	11

Laboratory Confirmed Cases Reported to the Division of Epidemiology and Immunization.

Month	*Campylobacter* spp.		*Salmonella* spp.		Shiga-toxigenic *E. coli*	
	2003	Ave. (1997-2002)	2003	Ave. (1997-2002)	2003	Ave. (1997-2002)
January	74	70	54	67	2	5
February	54	65	43	65	0	4
March	58	82	60	76	0	5
April	59	89	52	89	2	7

What's New in Foodborne Illness: Outbreaks and New Information

Norovirus Outbreak, April 2002

On April 30, 2002, the Division of Epidemiology and Immunization (EPI) of the Massachusetts Department of Public Health (MDPH) was notified by the Boston Public Health Commission (BPHC) of a foodborne outbreak at a wedding held at a hotel in Boston on April 27, 2002. On May 1, the Division of Food and Drugs (DFD) of the MDPH received two additional reports of outbreaks at weddings in Framingham and West Bridgewater that occurred on April 27th. One evident commonality between the three outbreaks was that all locations served cakes prepared by a bakery located in Braintree, MA. The focus of the investigation quickly shifted from the locations where the weddings were held to the bakery.

The suspect bakery typically produces a large volume of product, and the weekend of April 26th and 27th was no exception. On that weekend, the bakery provided cakes for 46 weddings in addition to filling 800-900 orders for smaller cakes. EPI attempted to contact organizers from all of the weddings. Forty-two weddings were contacted and twenty-two reported some illness in guests and/or food employees who ate at the event.

In initial reports, guests and food workers reported experiencing symptoms of nausea, vomiting and diarrhea. Most cases experienced onsets approximately 24 hours after the event. There were few visits to medical providers, and no one was diagnosed with a bacterial enteric illness. Because of the prominence of vomiting, the 24-hour incubation period, the self-limiting nature of the disease, and a lack of the identification of a bacterial pathogen, a viral etiology was suspected.

The Braintree Health Department initiated an environmental investigation on May 1st. Employees were observed to change tasks without changing gloves and did not always wash hands between glove changes. The person in charge was observed touching a bare body part without washing his hands afterwards. The Braintree Health Department worked diligently with

this establishment to correct these hygiene issues.

Food employees at the bakery submitted stool samples for both bacterial and viral testing. Three food workers admitted being ill during the week prior to the wedding, but only one reported gastrointestinal symptoms. This employee admitted being ill on April 26th and working that day but did call in sick on the 27th. This employee was responsible for transferring cakes before and after decorating and shaving chocolate, however the wedding cakes did not contain any shaved chocolate. No food employees tested positive for bacterial pathogens, but the one who reported having gastrointestinal symptoms was positive for norovirus. In addition, two guests and a food employee from a different establishment also tested positive for the same strain of norovirus.

EPI distributed over 1500 surveys to guests and food employees. Nine hundred and thirty-seven surveys were returned for a response rate of 54%. Three hundred and thirty-four people were identified as cases for an attack rate of 36% among respondents. The most common symptoms reported were nausea (81%), diarrhea (79%), abdominal cramps (75%), and vomiting (60%). Onsets ranged from 6 hours to 3.5 days, but the average was 1.5 days. Nine percent visited a health care provider and 2% went to the hospital. The surveys were analyzed to determine which foods were statistically related to illness. In nine events, eating cake was associated with illness. An attempt was made to determine if a particular filling was associated with illness. Most of these cakes were multi-layered with several types of cake and fillings for the different layers. The strawberry Grand Marnier and the chocolate mousse filling were statistically associated with illness. Both of these fillings are made from the same base of white chocolate mousse filling. The preparation of the fillings was reviewed carefully, but no problems were identified. Several leftover cake samples were submitted to the Johns Hopkins School of Public Health for viral testing. No evidence of viral contamination was found, but the technique for doing viral detection in food is still under development.

There is strong epidemiolgical evidence that the cakes became contaminated by an infected food worker who used bare hands to prepare the cakes. Only one food worker tested positive, but it is impossible to be sure whether this worker alone caused the outbreak. According to all reports, this worker had minimal opportunity to contact the cakes with bare hands, but it is possible that this worker did more tasks than reported to the investigators. It is also possible that more workers were infected but had ceased shedding viral particles by the time their stool samples were collected. No one else reported gastrointestinal illness, but it is possible they were asymptomatic, experienced only mild symptoms, or were reluctant to disclose an illness to the investigators. Among other things, it was recommended that the establishment improve personal hygiene and develop an employee health policy.

Braintree Health Department Perspective: "Let's Investigate"

The Tale of a Foodborne Illness Outbreak Investigation

by Mary Beth McGrath, RS and Holly Sutherby, Braintree Health Department

On the evening of Tuesday April 30, 2002 a local permitted caterer reported a consumer notification of illness among 25 of 208 guests from a wedding catered by that establishment on Saturday April 27, 2002.

As the wedding was held at a function hall located in another town, we immediately made contact with the local Board of Health in that town to report the suspected foodborne illness outbreak. Subsequently, on the morning of May 1, 2002, an environmental investigation was conducted at the commissary of the local caterer. By midday, contact was made with the Massachusetts Department of Public Health Division of Food and Drugs (DFD) to report the suspected foodborne illness outbreak, and the investigation steps that the department had taken to this point. During this conversation with the DFD, they advised us that two other weddings from the same weekend reported illness among large numbers of guests. Upon further discussion with DFD, we determined that the common food item at all three weddings were the cakes provided by a local bakery in Braintree.

With this new source of information, the outbreak investigation went in another direction to focus on the local bakery. On the afternoon of May 1, 2002, an environmental investigation began at the local bakery. During this investigation all critical violations were corrected prior to the inspector's departure. As can happen, in addition to this environmental investigation, the department staff was involved in a hazardous materials incident which made it an extremely busy day at the Braintree Health Department.

As the days passed, further reports of illness were received by the DFD involving cakes from the local bakery. On May 8, 2002, the local bakery

voluntarily released a press/news alert to assist with the investigation, which continued at the bakery daily from May 1 through May 15, 2002 and subsequent dates thereafter. During this period, the department implemented control measures at the bakery, and provided supervision, training and consultation. The department deemed it prudent to act in the capacity as "consultant" to the establishment to ensure compliance with the control measures implemented. During the investigation, the owner of the establishment was unable to demonstrate the ability to ensure compliance with the State Sanitary Code, 105 CMR 590.000. Moreover, the owner, who was also the person-in-charge (PIC), demonstrated poor hygienic practices and unsafe food handling practices, thus setting a poor example for his employees. As such, the owner was removed from his supervisory capacity as the PIC, and another certified food handler within the bakery, who demonstrated food protection knowledge, was assigned to supervise the owner and the employees of the bakery.

At the conclusion of the investigation, it was determined that an employee of the bakery tested positive for norovirus. However, the mode of transmission by this individual to the cakes remains unknown.

It is quite amazing to see how the investigation evolved and took many different paths. One positive aspect of this outbreak investigation was the open communication and cooperation that was exhibited by all parties involved from the local food establishments to the enforcement agencies. Although, this situation was extremely challenging and time consuming, the communication and collaboration demonstrated did provide the ability for the local bakery to remain in operation and meet all compliance requirements, while ensuring there were no public health risks.

Food Safety Web Links: Highlights of the Month

Food Safety Information in Multiple Languages:

The Integrated Food Safety Information Delivery System:
http://www.profoodsafety.org/

The Integrated Food Safety Information Delivery System (IFSIDS) web site contains food safety fact sheets covering the day-to-day operation of a food establishment, such as proper hand washing techniques, use of a three-compartment sink, and hot and cold holding temperatures. The site also contains ready-to-use signs in English and thirteen foreign languages.

University of Massachusetts, Nutrition Education Program:
http://www.umass.edu/umext/nutrition/programs/food_safety/resources/index_new.htm

This site contains food safety information for consumers and food employees in multiple languages.

FBI Information on the Web:

Preliminary FoodNet Data on the Incidence of Foodborne Illnesses --- Selected Sites, United States, 2002:

http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5215a4.htm